

WHAT IS CLAIMED IS:

1. A gold-based composition on a support based on at
5 least one reducible oxide, characterized in that its
halogen content expressed by the halogen/gold molar ratio
is equal to or lower than 0.05, in that the gold is
present in the form of particles equal to or lower than
10 nm in size, and in that it has undergone a reducing
treatment, to the exclusion of compositions with supports
in which the only reducible oxide or oxides is/are cerium
oxide, cerium oxide in combination with zirconium oxide,
cerium oxide in combination with praseodymium oxide,
cerium oxide in combination with titanium dioxide or
15 stannous oxide in a Ti/Ce or Sn/Ce atomic proportion
lower than 50%.

2. The composition as claimed in claim 1,
characterized in that the support is based on at least
20 one oxide selected from titanium dioxide, manganese
dioxide, ferric oxide or stannous oxide.

3. The composition as claimed in either of claims 1
and 2, characterized in that its halogen content is equal
25 to or lower than 0.04 and more particularly equal to or
lower than 0.025.

4. The composition as claimed in one of the
preceding claims, characterized in that the gold is
30 present in the form of particles equal to or lower than 3
nm in size.

5. The composition as claimed in one of the
preceding claims, characterized in that the halogen is
35 chlorine.

6. The composition as claimed in one of the preceding claims, characterized in that the gold content is equal to or lower than 5%, more particularly equal to
5 or lower than 1%.

7. The composition as claimed in one of the preceding claims, characterized in that it furthermore comprises at least one other metal element selected from
10 silver, platinum, palladium and copper.

8. The composition as claimed in claim 7, characterized in that the other abovementioned metal element is present in a quantity equal to or lower than
15 400%, more particularly between 5% and 50%, compared with the gold.

9. A method for preparing a composition as claimed in one of the preceding claims, characterized in that it
20 comprises the following steps:

- a compound based on at least one reducible oxide is contacted with a gold-halide-based compound and, if applicable, a compound based on silver, platinum, palladium or copper, forming a suspension of these
25 compounds, the pH of the medium thereby formed being fixed at a value of at least 8;

- the solid is separated from the reaction medium;

- the solid is washed with a basic solution;

the method furthermore comprising a reducing treatment
30 before or after the abovementioned washing step.

10. The method as claimed in claim 9, characterized in that the pH of the medium formed is maintained at the value of at least 8 during the formation of the
35 suspension of the compound based on at least one

reducible oxide and of the gold-halide-based compound and, optionally, of the compound based on silver, platinum, palladium or copper, by the addition of a basic compound.

5

11. The method as claimed in either of claims 9 and 10, characterized in that the solid obtained is washed with a basic solution with a pH of at least 8, preferably of at least 9.

10

12. A method for preparing a composition as claimed in one of claims 1 to 8, characterized in that it comprises the following steps:

- gold and, if applicable, silver, platinum, palladium or
- 15 copper are deposited on a compound based on at least one reducible oxide by impregnation or by ion exchange;
- the solid issuing from the preceding step is washed with a basic solution with a pH of at least 10;
- the method furthermore comprising a reducing treatment
- 20 before or after the abovementioned washing step.

13. The method as claimed in one of claims 9 to 12, characterized in that the reducing treatment takes place with a reducing gas at a temperature not higher than

25 200°C, preferably not higher than 180°C.

14. The method as claimed in one of claims 9 to 13, characterized in that the solid obtained after the reducing treatment is subjected to calcination at a

30 temperature not higher than 250°C.

15. A method for oxidizing carbon monoxide, characterized in that a composition as claimed in one of claims 1 to 8 or a composition obtained by the method as

35 claimed in one of claims 9 to 14 is used as catalyst.

16. The method as claimed in claim 15, characterized
in that it is employed for the treatment of a tobacco
smoke, in the water gas shift reaction, in the treatment
5 of reforming gases (PROX).

17. A method for purifying air, this air containing
at least one compound of the type carbon monoxide,
ethylene, aldehyde, amine, mercaptan, ozone, of the type
10 of volatile organic compounds or atmospheric pollutants
and of the type of malodorous compounds, characterized in
that the air is contacted with a composition as claimed
in one of claims 1 to 8 or a composition obtained by the
method as claimed in one of claims 9 to 14.

15

18. A cigarette filter, characterized in that it
contains a composition as claimed in one of claims 1 to 8
or a composition obtained by the method as claimed in one
of claims 9 to 14.